

Patent claims

1. A turbine shaft (3) oriented in a longitudinal direction (4), with a middle region (20) and with two outer regions (21, 22) fastened to the middle region (20) in the longitudinal direction (4), characterized in that the middle region (20) is produced from a more highly heat-resistant material than the two outer regions (21, 22).
2. The turbine shaft (3) as claimed in claim 1, characterized in that the two outer regions (21, 22) are connected to the middle region (20) in each case by means of a weld (24, 25).
3. The turbine shaft (3) as claimed in claim 1 or 2, characterized in that the middle region (20) is produced from a forging steel having 9 to 12% by weight of chromium and the two outer regions (21, 22) are produced from steels having 1 to 2% by weight of chromium.
4. The turbine shaft (3) as claimed in one of the preceding claims, characterized in that the outer regions (21, 22) are produced from different materials.

5. The turbine shaft (3) as claimed in claim 1, characterized in that the middle region (20) has a material based on nickel.

6. A method for producing a turbine shaft (3), characterized by the following steps:

- production of a middle region (20) from a heat-resistant material,
- production of an outer region (21) from a less heat-resistant material than that of the middle region (20),
- production of a second outer region (22) from a less heat-resistant material than that of the middle region (20),
- welding of the middle region (20) to the two outer regions (21, 22).

7. A steam turbine, with a turbine shaft (3) as claimed in one of claims 1 to 6.